

Remarks

This application has been carefully reviewed in light of the Office action mailed June 4, 2003. A three month time extension to respond to the Office action is requested. A check in the amount of \$475.00 is attached hereto.

Claims 9 and 11 –20 have been cancelled. Claims 1 and 8 have been amended. Pages 13 and 14 of the specification have been amended. A new Figure 11 is submitted for Examiner of approval. Reconsideration and favorable action in this application is respectfully requested.

The Examiner has objected to the declaration as being defective for not including the date signed by inventor Chi Guan. However, § 602.05 of the Manual of Patent Examining Procedure, does not require a new oath or declaration in the event that the date of execution has been omitted.

The Examiner has objected to the photograph of the microlens in Figure 11. A new Figure 11 is submitted with this Amendment, Examiner approval of the drawing for Figure 11 is respectfully requested.

The Examiner has objected to the specification in that the generic terminology of the trademarks used on pages 13 and 14 have not been supplied. Pages 13 and 14 have been amended to include a generic description accompanying the marks. Approval of pages 13 – 14 of the specification is requested.

The specification was objected as failing to provide proper antecedent basis for the claimed subject matter of claim 9. Claim 9 has now been cancelled.

The Examiner has made certain observations with respect to the claims. Claim 8 has now been amended as noted by the Examiner. Claims 12 and 16 have been cancelled.

Claims 1 – 8 and 10 have been rejection under 35 U.S.C. § 103(a) as being unpatentable over *Canon* in view of *Hayes et al.* Claim 1 has now been amended to more particularly define the present invention, and it is respectfully submitted that claim 1 is now in condition for allowance.

As admitted by the Examiner, *Canon* does not teach depositing first and second series of droplets which are coalesced to form a base and cap portion, respectively, of a microlens. *Hayes et al.* teaches the formation of a compound microlens having no gradient index of refraction. The Examiner has further admitted that the combination of *Canon* and *Hayes et al.* does not teach a microlens having a generally uniform axially gradient index of refraction and having a reduced focal spot. Claim 1 has been amended to more particularly define a microlens having a generally uniform axially gradient index of refraction formed in an inter-diffusion zone between a cap portion and a base portion where diffusion of the cap portion into the base portion and diffusion of the base portion into the cap portion occurs. This inter-diffusion zone is not disclosed or suggested in either *Canon* or *Hayes et al.* In *Canon*, material is merely diffused from the surface of a substrate into a layer. No inter-diffusion of two materials occurs. In *Hayes et al.*, no diffusion occurs as both materials are independently cured to form the compound lens, with no gradient index of refraction created. In the present invention, the curing of the base and cap must be delayed for a period of time at an elevated temperature to allow inter-diffusion of the cap portion into the base portion and the base portion into the cap portion. Neither *Canon* nor *Hayes et al.* suggests this process step for creating an inter-diffusion zone which has a gradient in the axial direction. As a result, the index of refraction increases from the index of refraction of the base portion at the bottom of the inter-diffusion zone to the index of

refraction of the cap portion at the upper boundary of the inter-diffusion zone. Neither *Canon* nor *Hayes et al.* disclose or suggest a process for forming such an inter-diffusion zone, and it is respectfully requested that the rejection under § 103(a) be withdrawn. Claims 2 – 8 and 10, depend from claim 1 and it is respectfully submitted that these dependent claims are also in condition for allowance.

For the forgoing reasons, allowance of claims 1 – 8 and 10 respectfully requested. If the Examiner has any questions regarding this Amendment, the Examiner is respectfully requested to telephone the undersigned attorney for Applicants.

Respectfully submitted,



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